UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/576,288	04/14/2006	Jinsock Lee	Q94481	9398

23373   7590   10/05/2009

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ART UNIT	PAPER NUMBER
2617	

MAIL DATE	DELIVERY MODE
10/05/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

	Application No.	Applicant(s)
Office Action Summary	10/576,288	LEE, JINSOCK
	Examiner	Art Unit	
	Munjal Patel	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _06/30/2009_.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1 and 3-23_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1 and 3-23_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _14 April 2006 and 30 June 2009_ is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

        1.☐ Certified copies of the priority documents have been received.

        2.☐ Certified copies of the priority documents have been received in Application No. _____.

        3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

1.   Applicant cancelled claim 2, the examiner acknowledges it.

2.   Applicant replacement drawing is accepted, and objection regarding drawing is

withdrawn.

3.   Applicant amendment to claim 1, 16 & 22 has overcome the claim objection,

hence objection is withdrawn.

Claim Rejections - 35 USC § 102

4.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5.   **Claims 1, 8-14, 17-20, and 23** are rejected under 35 U.S.C. 102(e) as being

anticipated by **Bensaou et al. (US Patent # US 6,747,976 B1)** herein after referred as

Bensaou.

6.   **Regarding claim 1, Bensaou** discloses a method of closed loop capacity

scheduling between a base station **(Bensaou: Fig 2: 5, 7)** and a mobile station

(Bensaou: Fig 2:9), wherein the method comprises:

        inputting respective flows to capacity controllers (FCC) in the mobile station

(Bensaou: Fig 2: 5, 7, & 9, Fig 6:59, 62 along with Col 8 lines [1-22] discloses

mobile WT assigning individual queues to GCRA);

selecting a traffic class from a plurality of QoS traffic classes **(Bensaou: Fig 6 &**

Col 8 lines [13-22]);

allocating priority levels to the respective flows in consideration of the selected

traffic class in order to transmit different QoS traffic classes **(Bensaou: Fig 6: 61, 63, 67**

& Col 8 lines [13-37]). and

computing, in the FCCs, uplink capacity requests for the respective flows based

on the selected traffic class **(Bensaou: Fig 6: 61, 63, 67 & Col 8 lines [13-37])**.

7.   **Regarding claim 8, Bensaou** discloses a method of closed-loop capacity

scheduling between a base station and a mobile station, wherein:

generating, in the mobile station **(Bensaou: Fig 6:58)**, a capacity request based

on a priority allocated to each of the flows and a queue size of a flow queue allocated to

each of the flows **(Bensaou: Fig 6 & Col 8 lines [1-22] discloses receiving**

bandwidth allocation at WT-subsystem and assigning allocated bandwidth based

on the priority), determining, in the base station, a capacity allocation of the flow based

on the capacity request **(Bensaou: Fig 5:40 & Col 7 lines [41-66])**, reporting, in the

base station, a flow assigning information and the capacity allocation to the mobile

station, and transmitting, in the mobile station, data packets based on the assigned flow

and the capacity allocation **(Bensaou: Fig 5:40 & Col 7 lines [41-66] discloses AP**

determining bandwidth to allocate based on request from MS and allocating

bandwidth and communicating it to MS).

8.   **Regarding claim 9, Bensaou** discloses a method of closed-loop capacity

scheduling as claimed in claim 8 comprising generating, in the mobile station, the

capacity request based on the priority assigned to each flow and the queue size of the

flow queue allocated to each flow **(Bensaou: Fig 6:58 & Col 8 lines [31-34])**, wherein

calculating, in the base station, a capacity allocation of each of the flows based on a

capacity request **(Bensaou: Col 8 lines [34-36])**, and determining, in the base station,

when the total amount of the capacity allocation is equal to or greater than the usable

capacity amount, the allowable capacity which is smaller than a capacity allocation

based on the priority **(Bensaou: Col 8 lines [34-36] discloses APs reply in following

frame the allocated number of time slots (bandwidth) and location approved,

hence determining in the base station, decision of allocation happens only after

the consideration of whether there is an available bandwidth, i.e. total bandwidth

is greater than or equal to allocated bandwidth)**.

9.   **Regarding claim 10, Bensaou** discloses a method of closed-loop capacity

scheduling as claimed in claim 9, wherein the base station determines a capacity

allocation to the flow based on the capacity request, the capacity allocation information

including the flow ID of the flow and the allowable Capacity which can be used for the

flow **(Bensaou: Col 8 lines [34-42] discloses bandwidth allocation based on

reservation request referring to individual VC queues)**.

10.   **Regarding claim 11, Bensaou** discloses a method of closed-loop capacity

scheduling for use in a system capable of transmitting a plurality of data flows from the

mobile station to the base station and having any one of the plurality of priority levels

allocated to each of the data flows **(Bensaou: Col 8 lines [1-36] discloses WT-**

subsystem having CBR & UBR queues with different priorities scheduled to

transmit to AP), wherein the method comprises:

(a) a first step where the mobile station reports to the base station of the

provisional scheduling information generated based on the buffer storing amount of the

data flow and the priority **(Bensaou: Col 8 lines [1-36] discloses WT-subsystem**

having CBR & UBR queues generates a request for bandwidth allocation to AP

based on stored data in queue buffer according to the priority),

(b) a second step where the base station determines the capacity allocation to

the data flow based on the provisional scheduling information priority **(Bensaou: Col 8**

lines [34-36] discloses APs reply in following frame, the allocated number of time

slots (bandwidth) and location approved, which is based on initial bandwidth

request, hence determining bandwidth allocation at the base station depending

on request),

(c) a third step where the base station reports to the mobile station of the data

flow assigning information and the capacity allocation **(Bensaou: Col 8 lines [34-36]**

discloses APs reply in following frame, the allocated number of time slots

(bandwidth) and location approved), and

(d) a fourth step where the mobile station transmits the data flow based on the

capacity allocation and the data flow assigning information **(Bensaou: Col 4 lines [12-**

20]).

11.   **Regarding claim 12, Bensaou** discloses a method of closed-loop capacity

scheduling as claimed in claim 11, wherein the second step includes:

a fifth step for calculating a required capacity of each of the data flows based on the

provisional scheduling information, and a sixth step for determining, in case where the

total amount of the required capacity is equal to or greater than the usable amount of

capacity, the allowable capacity smaller than the required capacity **(Bensaou: Col 8**

lines [34-36] discloses APs reply in following frame the allocated number of time

slots (bandwidth) and location approved, hence calculating required bandwidth in

the base station based on each request, & when the total amount of bandwidth

requested is greater than or equal to available bandwidth, allocating from

available bandwidth to WT, which is smaller in case of available bit rate (ABR)).

12.   **Regarding claim 13, Bensaou** discloses a method of closed-loop capacity

scheduling as claimed in claim 11, wherein: the capacity allocation information in the

third step includes a flow ID of the data flow and allowable capacity usable for the data

flow **(Bensaou: Col 8 lines [34-42] discloses bandwidth allocation based on**

reservation request referring to individual VC queues).

13.   **Regarding claim 14, Bensaou** discloses a system for providing closed-loop

capacity scheduling between a mobile station and a base station, capable of selecting a

QoS traffic class from a plurality of QoS traffic classes, the system comprising:

a flow capacity controller (FCC) for computing a requested uplink capacity for

each data flow specified by a selected QoS traffic class in the mobile station **(Bensaou:**

Fig 6: 61, 63, 67 & Col 8 lines [1-17]);

a capacity request controller (CRC) for changing the requested uplink capacity so

as to generate a changed capacity request indicating a changed capacity **(Bensaou:**

Col 8 lines [1-42] discloses process of WT-subsystem changing bandwidth as

allocated by APs); and

means for transmitting the changed capacity request from the mobile station to

the base station **(Bensaou: Col 4 lines [12-14])**.

14.   **Regarding claim 17, Bensaou** discloses the system as claimed in claim 14,

wherein the base station comprises:

reception means for receiving the changed capacity request **(Bensaou: Fig 3:**

Slave scheduler performs reservation request calculation, hence presence of

capacity request controller); and a capacity scheduler for computing an allowable

capacity for each of the flows with the use of the changed capacity request, the selected

traffic class **(Bensaou: Fig 6: 61, 63, 67 & Col 8 lines [13-17])**, and the priority level

transmitted from the mobile station **(Bensaou: Fig 3: Slave scheduler communicates**

the reservation request to Master scheduler).

15.   **Regarding claim 18, Bensaou** discloses an uplink capacity managing method of

managing uplink capacities for a plurality of uplink data flows in a base station, the base

station comprising:

computing a schedulable uplink capacity indicating a difference between a

maximum uplink capacity and a non-schedulable uplink capacity **(Bensaou: Fig 3:**

Master scheduler receives the request from slave scheduler and performs

reservation allocation, hence calculation of available capacity, which is a

difference between total capacity and non-available capacity); receiving a capacity

request transmitted from the mobile station **(Bensaou: Fig 3: Master scheduler**

receives the request from slave scheduler); computing a minimum QoS capacity that

satisfies a minimum QoS request **(Bensaou: Col 2 lines [26-29] discloses Minimum**

Cell Rate); and allocating a capacity to each of the flows in consideration of the priority

level and the minimum QoS capacity allocated to the flow **(Bensaou: Fig 3: Master**

scheduler along with AP allocates bandwidth for each flow according to their

priority).

16.   **Regarding claim 19, Bensaou** discloses the uplink capacity managing method

as claimed in claim 18, further comprising: computing an additional requested capacity

to each of the flows so that the available and schedulable uplink capacity that remains

after the allocation of the minimum QoS capacity is utilized to the maximum extent

possible **(Bensaou: Col 4 lines [54-58] discloses Available Bit Rate)**; and allocating

the remaining capacity to each of the flows having the additional requested capacities

(Bensaou: Col 4 lines [54-58] discloses Available Bit Rate queue).

17.   **Regarding claim 20, Bensaou** discloses a mobile station device for which an

uplink capacity control is carried out by the base station, comprising:

a flow capacity controller (FCC) for computing a requested uplink capacity for

each of data flows specified by a selected QoS traffic class in the mobile station

(Bensaou: Fig 6 & Col 8 lines [1-22] discloses prioritizing bandwidth allocation for

each class of service at WT-subsystem),

a capacity request controller (CRC) for changing the requested uplink capacity so

as to generate a changed capacity request indicating a changed capacity **(Bensaou:**

Fig 3: WT generates the request for bandwidth allocation and once allocated it

changes its queue transmission accordingly, hence presence of capacity request

controller), and

means for transmitting the changed capacity request from the mobile station to

the base station **(Bensaou: Fig 3: WT generates the request for bandwidth**

allocation and once allocated it changes its queue transmission accordingly).

18.   **Regarding claim 23, Bensaou** discloses a base station device for carrying Out

an uplink capacity control for a plurality of mobile stations **(Bensaou: Fig 2: 5 & 7)**,

comprising:

a receiving means for receiving the changed capacity request, a capacity

scheduler for computing an allowable capacity for each of the flows with the use of the

changed capacity request, selected traffic classes, and the priority level transmitted

from the mobile Station **(Bensaou: Fig 2 & Col 4 lines [48-62] Master scheduler/AP**

scheduler has capability to receive bandwidth requests, calculate allowable

bandwidth & allocate bandwidth according to the priority scheduler calculation).

Claim Rejections - 35 USC § 103

19.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

20.   The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

1.   Determining the scope and contents of the prior art.
2.   Ascertaining the differences between the prior art and the claims at issue.
3.   Resolving the level of ordinary skill in the pertinent art.
4.   Considering objective evidence present in the application indicating
     obviousness or nonobviousness.

21.   **Claims 3-6, 15, 17, and 21** are rejected under 35 U.S.C. 103(a) as being

unpatentable over **Bensaou** in view of **DeClerck et al.(US Patent # US 6,198937 B1)**

herein after referred as **DeClerck.**

22.   **Regarding claim 3, Bensaou** discloses the closed-loop capacity scheduling

method as claimed in claim 1, further comprising:

changing, in a capacity request controller (CRC) **(Bensaou: Fig 3: Slave**

scheduler performs reservation request calculation, hence presence of capacity

request controller),

the capacity request for each of the flows with the use of the priority level, the

selected traffic Class **(Bensaou: Fig 6: 61, 63, 67 & Col 8 lines [13-17])**, and the uplink

transmission power; and

transmitting the changed capacity request for each of the flows from the mobile

station to the base station **(Bensaou: Fig 3: Slave scheduler communicates the**

reservation request to Master scheduler).

However, Bensaou fails to discloses the capacity request for each of the flows

with the use of the priority level, the selected traffic Class, and the uplink transmission

power, however, the examiner maintains that it was well known in the art to provide the

capacity request for each of the flows with the use of the priority level, the selected

traffic Class, and the uplink transmission power as taught by **DeClerck (DeClerck: Col**

8 lines [54-67] discloses controlling transmission power level of a radio link

based on radio link capacity).

In a similar field of endeavor, **DeClerck** discloses method and apparatus for

controlling radio link capacity in communication system, In addition **DeClerck** discloses

the capacity request for each of the flows with the use of the priority level, the selected

traffic Class, and the uplink transmission power.

Therefore, it would have been obvious to one of ordinary skill in the art at the

time the invention was made to modify **Bensaou** by specifically providing the capacity

request for each of the flows with the use of the priority level, the selected traffic Class,

and the uplink transmission power as taught by **DeClerck** for the purpose of providing

compatibility between multiple transmission technologies **(DeClerck: Col 2 lines [40-45]).**

23.   **Regarding claim 4, Bensaou** in view of **DeClerck** discloses the closed-loop

capacity scheduling method as claimed in claim 3, further comprising:

receiving, in the base station, the changed capacity request;

computing, in a capacity scheduler (CS) of the base station **(Bensaou: Fig 3:**

Master scheduler receives the request from slave scheduler and performs

reservation allocation, hence presence of capacity request controller), an

allowable capacity for each of the flows with the use of the changed capacity request;

and transmitting capacity allocation indicating the allowable capacity for each of the

flows from the base station to the mobile station **(Bensaou: Fig 3 & Col 4 lines [22-32]**

Master scheduler/AP slave scheduler communicates individual allocation

bandwidth to slave scheduler in MS).

24.   **Regarding claim 5, Bensaou** in view of **DeClerck** discloses the closed-loop

capacity scheduling method as claimed in claim 3, further comprising:

receiving, in the base station, the changed capacity request;

computing, in a capacity scheduler (CS) of the base station **(Bensaou: Fig 3:**

Master scheduler receives the request from slave scheduler and performs

reservation allocation, hence presence of capacity request controller), an

allowable capacity for each of the flows with the use of the changed capacity request;

computing a total value of the allowable capacities for the flows (the total allowable

capacity) for each of the mobile stations; and

transmitting capacity allocation indicating the total allowable capacity for each of

the mobile station from the base station to the mobile station **(Bensaou: Fig 3 & Col 4**

lines [21-22] Master scheduler communicates total allocation bandwidth to slave

scheduler). This claim is rejected for the same motivation as claim 3.

25.   **Regarding claim 6, Bensaou** in view of **DeClerck** discloses the closed-loop

capacity scheduling method as claimed in claim 4, further comprising:

receiving, in a capacity allocation controller (CAC) of the mobile station, the

capacity allocation;

changing the capacity allocation received by the capacity allocation controller

(CAC) with the use of the selected traffic class and the uplink transmission power to

generate a changed allocated capacity; and

updating, in each of the flows to capacity controllers (FCCs), the allowable

capacity with the use of the changed allocated capacity **(Bensaou: Fig 6 & Col 8 lines**

[1-22] discloses receiving bandwidth allocation at WT-subsystem and assigning

allocated bandwidth based on the priority).

26.   **Regarding claim 15, Bensaou** discloses the system as claimed in claim 14,

wherein the mobile station further comprises:

a capacity allocation controller (CAC) changing the allocated capacity transmitted

from the base station based on an uplink transmission power; and

a flow to capacity controllers (FCC) for updating the allowed capacity with the use of the changed allocated capacity **(Bensaou: Col 8 lines [1-42] disclose process of WT-subsystem changing bandwidth as allocated by APs)**.

However, Bensaou fails to discloses a capacity allocation controller (CAC) changing the allocated capacity transmitted from the base station based on an uplink transmission power, **however, the examiner** maintains that it was well known in the art to provide a capacity allocation controller (CAC) changing the allocated capacity transmitted from the base station based on an uplink transmission power as taught by **DeClerck (DeClerck: Col 8 lines [54-67] discloses controlling transmission power level of a radio link based on radio link capacity)**.

In a similar field of endeavor, **DeClerck** discloses method and apparatus for controlling radio link capacity in communication system, In addition **DeClerck** discloses a capacity allocation controller (CAC) changing the allocated capacity transmitted from the base station based on an uplink transmission power.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify **Bensaou** by specifically providing a capacity allocation controller (CAC) changing the allocated capacity transmitted from the base station based on an uplink transmission power as taught by **DeClerck** for the purpose of providing compatibility between multiple transmission technologies **(DeClerck: Col 2 lines [40-45])**.

27.   **Regarding claim 17, Bensaou** in view of **DeClerck** discloses the system as

claimed in claim 15, wherein the base station comprises:

reception means for receiving the changed capacity request **(Bensaou: Fig 3:**

Slave scheduler performs reservation request calculation, hence presence of

capacity request controller); and

a capacity scheduler for computing an allowable capacity for each of the flows

with the use of the changed capacity request, the selected traffic class **(Bensaou: Fig**

6: 61, 63, 67 & Col 8 lines [13-17]), and the priority level transmitted from the mobile

station **(Bensaou: Fig 3: Slave scheduler communicates the reservation request to**

Master scheduler). This claim is rejected for the same motivation as claim 15.

28.   **Regarding claim 21, Bensaou** discloses a mobile station device as claimed in

claim 20 further comprising a capacity allocation controller (CAC) for changing the

allocated capacity received from the base station based on an uplink transmission

power; and an flows to capacity controllers (FCC) for updating the allowed capacity with

the use of the changed allocated capacity **(Bensaou: Fig 6 & Col 8 lines [1-22]**

discloses prioritizing bandwidth allocation for each class of service at WT-

subsystem). **However, Bensaou** fails to discloses a capacity allocation controller

(CAC) for changing the allocated capacity received from the base station based on an

uplink transmission power, however, the examiner maintains that it was well known in

the art to provide a capacity allocation controller (CAC) for changing the allocated

capacity received from the base station based on an uplink transmission power as

taught by **DeClerck (DeClerck: Col 8 lines [54-67] discloses controlling transmission power level of a radio link based on radio link capacity).**

In a similar field of endeavor, **DeClerck** discloses method and apparatus for controlling radio link capacity in communication system, In addition **DeClerck** discloses a capacity allocation controller (CAC) for changing the allocated capacity received from the base station based on an uplink transmission power.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify **Bensaou** by specifically providing a capacity allocation controller (CAC) for changing the allocated capacity received from the base station based on an uplink transmission power as taught by **DeClerck** for the purpose of providing compatibility between multiple transmission technologies **(DeClerck: Col 2 lines [40-45]).**

29.   **Claim 16** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Bensaou** in view of **3GPP TR 25.896 V1.0.0 (2003-09)** herein after referred as **3GPP TR 25.896 V1.0.0**.

30.   **Regarding claim 16, Bensaou** discloses the system as claimed in claim 14, wherein the mobile station further comprises:

a Transport Format Combination controller (TFCC) for selecting a combination of transport formats according to the capacity allocation transmitted from the base station; and an flows to capacity controllers (FCC) for computing a capacity request for each of

the flows with the use of the selected combination of transport formats , **(Bensaou: Fig 6 & Col 8 lines [1-22] discloses prioritizing bandwidth allocation for each class of service at WT-subsystem)** . **However**, **Bensaou** fails to specifically indicate a transport format combination controller (TFCC) and a combination of transport formats according to the capacity allocations, **however, the examiner** maintains that it was well known in the art to provide a transport format combination controller(TFCC) and a combination of transport formats according to the capacity allocations as these are MAC function, which mobile (UE) performs when there is something to transmit **(3GPP TR 25.896 V1.0.0, section 6.3 lines [1-4]).**

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify **Bensaou** by specifically providing a transport format combination controller (TFCC) and a combination of transport formats according to the capacity allocations as taught by **3GPP TR 25.896 V1.0.0** for the purpose of compliancy with 3GPP standard.

31.   **Claims 7 and 22** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Bensaou** in view of **DeClerck** as applied to the claims above, and further in view of **3GPP TR 25.896 V1.0.0**.

32.   **Regarding claim 7, Bensaou** in view of **DeClerck** discloses the closed-loop capacity scheduling method as claimed in claim 5, further comprising:

receiving, in a transport format combination controller (TFCC) of the mobile station, the

capacity allocations, **(Bensaou: Fig 6 & Col 8 lines [1-22] discloses receiving bandwidth allocation at WT-subsystem)**, selecting, in the transport format combination controller (TFCC), a combination of transport formats according to the capacity allocations; and computing, in each of the flows to capacity controllers (FCC), a capacity request for each flow according to the selected combination of transport formats, however, **Bensaou** in view of **DeClerck** fails to specifically indicate a transport format combination controller(TFCC) and a combination of transport formats according to the capacity allocations, however, the examiner maintains that it was well known in the art to provide a transport format combination controller(TFCC) and a combination of transport formats according to the capacity allocations as these are MAC function, which mobile (UE) performs when there is something to transmit **(3GPP TR 25.896 V1.0.0, section 6.3 lines [1-4])**.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify **Bensaou** in view of **DeClerck** by specifically providing a transport format combination controller (TFCC) and a combination of transport formats according to the capacity allocations as taught by **3GPP TR 25.896 V1.0.0** for the purpose of compliancy with 3GPP standard.

33.   **Regarding claim 22, Bensaou** in view of **DeClerck** discloses a mobile station device as claimed in claim 21, wherein the device further comprises a Transport Format Combination Controller (TFCC) for selecting a transport format combination based on the capacity allocation transmitted from the base station, and an flows to capacity

controllers (FCC) for computing the capacity request for each of the flows by the use of the combination of the selected transport formats **(Bensaou: Fig 6 & Col 8 lines [1-22] discloses prioritizing bandwidth allocation for each class of service at WT-subsystem)**. **However, Bensaou** in view of **DeClerck** fails to specifically indicate a transport format combination controller(TFCC) and a combination of transport formats according to the capacity allocations, **however, the examiner** maintains that it was well known in the art to provide a transport format combination controller(TFCC) and a combination of transport formats according to the capacity allocations as these are MAC function, which mobile (UE) performs when there is something to transmit **(3GPP TR 25.896 V1.0.0, section 6.3 lines [1-4])**.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify **Bensaou** in view of **DeClerck** by specifically providing a transport format combination controller (TFCC) and a combination of transport formats according to the capacity allocations as taught by **3GPP TR 25.896 V1.0.0** for the purpose of compliancy with 3GPP standard.

Response to Arguments

34.   Applicant's arguments filed 06/30/2009 have been fully considered but they are not persuasive.

    a.   Applicant's argument on page 12 ¶ 0006 – page 13 ¶ 0002, page 14 ¶
    0002, page 14 ¶ 0006 – page 15 ¶ 0001, page 16 ¶ 0002, page 17 ¶ 0003, page
    18 ¶ 0001, page 18 ¶ 0003 regarding requesting number and location of time
    slots are not uplink capacity, however, the examiner respectfully disagrees, as

capacity is interpreted as bits per second or bandwidth or cell rate as known in the art, Bensaou discloses various cell rate algorithm including GCRA. Applicants argues as "time slots are different than capacity", but the examiner interpretation is the more time slots are there, the more capacity to transmit the data is available, hence uplink capacity.

b.   Applicant's argument on page 13 ¶ 0003 – page 14 ¶ 0001 regarding Bensaou discloses corresponding queue lengths of the virtual uplink queues 61, 63, 67 are in the AP, however, the examiner respectfully disagree as cited Col 8 line [1] discloses WT-subsystem hence, it is being performed in WT(mobile).

c.   Applicant's argument on page 14 ¶ 0005 regarding applicant can not find any disclosure of receiving bandwidth at WT-subsystem and assigning allocated bandwidth based on priority, as cited, the examiner suggest applicant's attention on at least line [1] & lines [16-22] where Bensaou suggests the cells arriving to the individual queues 59 & 62 are inserted in the service queues 61,63 according to the precedence (priority) defined by fairness criteria & the scheduling algorithm.

d.   Applicant's argument on page 15 ¶ 0002 – page 15 ¶ 0005, page 16 ¶ 0004 – page 17 ¶ 0002 regarding claimed invention requires closed-loop capacity scheduling to be "reporting, in the base station, a flow assigning information and the capacity allocation information to the mobile station and transmitting in the mobile station data packets based on the assigned flow and capacity allocation" is not same as Bensaou disclose by AP and WT are

independent of their allocation and scheduling, however, the examiner disagrees as Bensaou clearly discloses WT sends reservation request to AP (hence AP and WT are in sync) (Col 8 lines 31-37), Bensaou also disclose WT providing CBR (constant bit rate) this can only happen if AP is in sync with WT, hence the examiners interpretation of both are in sync to provide a particular bit rate.

e.   Applicant's argument on page 16 ¶ 0001 – page 16 ¶ 0003 regarding failing to disclose the schedules constructed in the WT is reported to the AP, however, the examiner disagrees as Bensaou clearly discloses WT sends reservation request to AP (hence AP and WT are in sync) as cited above.

f.   Applicant's argument on page 18 ¶ 0002, page 19 ¶ 0002 regarding Bensaou failing to disclose "transmitting the changed capacity request from the mobile station to the base station" however, the examiner respectfully disagree as cited (Bensaou: Fig 3: WT generates the request for bandwidth allocation and once allocated it changes its queue transmission accordingly) Master scheduler assigns a particular capacity to WT, which is in turn divided by WT to provide different QoS capacity as shown but as new request of capacity from WT i.e. if previously ABR was assigned by AP, but now WT requires CBR, to be in sync with AP, WT changes the old capacity request to AP to provide appropriate service (i.e., being in Sync with AP as disclosed by Bensaou) , hence the examiners interpretation of transmitting the changed capacity request from the mobile station to the base station.

g.   Applicant's argument on page 19 ¶ 0003 – page 19 ¶ 0007, page 20 ¶

0004 - ¶ 0005, page 22 ¶ 0006 – page 23 ¶ 0004 regarding Bensaou failing to

disclose similar argument as responded above. Please see cited response as

above.

h.   Applicant's argument on page 20 ¶ 0001 – page 20 ¶ 0003 Bensaou

failing to disclose base station computing a minimum QoS capacity, however, the

examiner disagrees as even though ABR stream is sent to AP by WT, both WT

and AP are performing their own calculation of assigning and allocating capacity

(although they are in sync, both are independent as per Bensaou's disclosure),

hence the examiners interpretation of AP calculating its own scheduling.

i.   In response to applicant's argument that page 20 ¶ 0006 – page 22 ¶

0005, a recitation of the intended use of the claimed invention must result in a

structural difference between the claimed invention and the prior art in order to

patentably distinguish the claimed invention from the prior art. If the prior art

structure is capable of performing the intended use, then it meets the claim.

j.   In response to applicant's argument that there is no suggestion to combine

the references, the examiner recognizes that obviousness can only be

established by combining or modifying the teachings of the prior art to produce

the claimed invention where there is some teaching, suggestion, or motivation to

do so found either in the references themselves or in the knowledge generally

available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5

USPQ2d 1596 (Fed. Cir. 1988)and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941

(Fed. Cir. 1992). In this case, providing compatibility between multiple

transmission technologies (DeClerck: Col 2 lines [40-45]).

Conclusion

35.   Applicant's amendment necessitated the new ground(s) of rejection presented in

this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37

CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Munjal Patel whose telephone number is (571)270-

5541. The examiner can normally be reached on Monday - Friday 9:00 AM - 6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Rafael Perez-Gutierrez can be reached on 571-272-7915. The fax phone

number for the organization where this application or proceeding is assigned is 571-

273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Munjal Patel
Examiner
Art Unit 2617

/M. P./
Examiner, Art Unit 2617

/Rafael Pérez-Gutiérrez/

Supervisory Patent Examiner, Art Unit 2617